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# Health and Wealth in the 20th Century: Implications for Today

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Dr Daniel Gallardo Albarrán  
Professor Herman de Jong



# HEALTH AND WEALTH IN THE 20TH CENTURY: IMPLICATIONS FOR TODAY

The 20th century brought significant improvements in income and health of citizens across many countries worldwide.

**Dr Daniel Gallardo Albarrán** (University of Wageningen) and **Professor Herman de Jong** (University of Groningen) have used a comprehensive framework addressing many dimensions of human development, to take a new and closer look at changes in economy and health during the first half of the 20th century.

## ‘The Great Escape’

Over the centuries, human societies have gone through countless transformations affecting the wellbeing, health and quality of life of people around the world. Despite the wars and economic struggles that marked the first half of the 20th century, this historical period brought exceptional advances in the health and leisure time of a large number of countries.

The economic growth of European nations, typically measured in Gross Domestic Product (GDP) per capita, was considerably low until the 1950s. Yet, Europeans became healthier, taller and lived longer, while also gaining more leisure time. In many parts of the world, the advent of the 20th century resulted in a clear break from the challenging past marked by widespread poverty and illness. Such was the significance of this change that the Nobel laureate Angus Deaton described it as a ‘Great Escape’ from the previous reality marked by early death, poverty and poor health.

Improvements resulting from this escape were most pronounced in developed countries, and the observation of these effects is

supported by the ready availability of long-term data. Dr Daniel Gallardo Albarrán (University of Wageningen) and Professor Herman de Jong (University of Groningen) have conducted extensive research exploring a range of dimensions reflecting the economy, health and wellbeing of citizens in several countries worldwide.

Better understanding the changes brought by the 20th century could have far-reaching implications for the present day. This includes informing how we should best measure the welfare of nations, and encouraging the use of more comprehensive approaches that consider a range of different dimensions of the economy and citizens’ health. Findings could also benefit governments and policy-makers by helping them identify critical areas of welfare to prioritise in their interventions. This could encourage more policies that focus on workweek reduction, lowering inequality and making improvements to healthcare services.



## Links Between Income and Health

Professor de Jong has been carrying out economic history research focused on the 20th century for many years. His studies are based on a novel approach that measures levels of growth and economic wellbeing using broad indicators of human welfare. In his analyses, Professor de Jong has compared labour productivity and working wages between European countries over the first half of the 20th century, while also studying causal relationships between these and inequality, health and leisure, which are often seen as key indicators of economic welfare.

This work is based on the observation that advanced European nations experienced noteworthy improvements in life expectancy and health as they were entering the second stage of a





so-called Kuznets curve. In economics, a Kuznets curve is a graph representation outlining the hypothesis that as a given economy develops, market forces first increase and then decrease economic inequality. In the second stage of maturing industrialisation, income within nations becomes more equally distributed. This hypothesis may explain the slow rise in per capita income observed in the 20th century alongside improvements in living standards for most of the population.

To better understand the underlying mechanisms of this apparent paradox, Professor de Jong examined and analysed indicators that reflect citizens' economic living standards and overall human development. This work was developed further by Dr Gallardo Albarrán as part of his doctoral thesis.

### **Beyond GDP and National Income**

The most common measures of living standards in the 20th century and today are GDP and the underlying relations within the National Accounts, which represent the economic activity of a nation. However, economics scholars have often expressed their concerns that National Accounts might be incomplete,

and that GDP only truly measures economic activity that passes through the market – that is, the output of a country.

In addition to GDP, Professor de Jong and Dr Gallardo Albarrán's work considers other important factors affecting living standards within nations, including wages, consumption, mortality rates, life expectancy, inequality and leisure time. Using a comprehensive framework, the researchers examined all these factors in combination to achieve a better understanding of changes in human welfare in Europe and the US during the first half of the 20th century.

### **Human Welfare in the 20th Century**

In an article published in *Explorations in Economic History* (volume 72), Dr Gallardo Albarrán identified a number of key findings related to the welfare of different countries during the first half of the 20th century. First, he found that living standards in Western Europe were slightly below two-thirds of those in America. Despite the similar leisure time for workers in the two regions, life expectancy was four years lower in Western Europe, which also had lower

consumption rates. Second, Northern Europe was found to have much closer welfare levels relative to America than measured by GDP per capita, with higher life expectancy and consumption levels. Living standards in Southern Europe, on the other hand, were slightly lower, mostly due to heavy mortality rates among its citizens.

While Dr Gallardo-Albarrán's findings were consistent with previous work suggesting that US citizens were ahead of Europeans in terms of wellbeing, the percentages he derived were markedly different. For example, according to Human Development Index (HDI) rankings, in 1913 Italian wellbeing was 75% of that in America. Yet, using an alternative measure of welfare, Dr Gallardo Albarrán found Italian living standards to be roughly one third of those in the US. This appears to be a more realistic calculation, especially considering that life expectancy in Italy was seven years lower.

Similarly, analyses revealed a greater welfare gap between the US and the UK than that reported by HDI, primarily due to the longer working hours and higher mortality rates of British citizens.





Dr Gallardo Albarrán's findings highlight the importance of considering other factors, such as consumption, health, mortality, life expectancy and leisure time, to achieve a more comprehensive and accurate picture of a country's welfare.

### Analysing Growth

Dr Gallardo Albarrán's work also addressed the question of whether the first half of the 20th century in Western Europe should be characterised as one of either missed or taken opportunities for improving broader wellbeing. Overall, he found that income growth significantly underestimated welfare growth in Western Europe between 1913 and 1950. Taking Britain as an example, in 1950, British citizens were at far lower risk of infectious diseases, had an increased life expectancy of 16 years, lived in a more equal society, and spent almost 200 hours less per year at work compared to 1913. This prominent improvement in welfare is almost three times higher than growth based on income per capita only.

Dr Gallardo Albarrán collected similar observations for most other European countries, which also reported declines in mortality rates and inequality, as well as an increase in leisure time. When looking at drivers of welfare growth over time, Dr Gallardo Albarrán considered 1913–1929 and 1929–1950 separately. In the first period, 1913–1929, he found the growth trajectory of Western Europe to be considerably steeper than the American one.

Despite the detrimental effects of WW1, consumption grew and was more equally distributed among countries. The introduction of the eight-hour working day increased workers' leisure time, and citizens health improved through better sanitary services and diet.

From 1929 to 1950 welfare growth was lower, with consumption rates being approximately half of those in previous years and no further reductions in working hours. However, welfare growth in Western Europe persisted, primarily due to further progress in sanitation and medicine, which allowed major infectious diseases to be treated.

Throughout the first half of the 20th century, mortality rates in both the US and Western Europe declined, particularly within the 0–5 age range. Overall, the decrease in child mortality was found to play a key part in the welfare growth of these countries, with mortality rates also declining less for older ages.

### A Comprehensive Study of Human Welfare

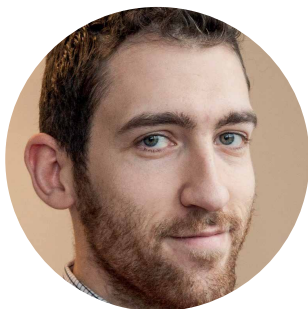
The research carried out by Dr Gallardo Albarrán and Professor de Jong has led to a broader understanding of the changes in economy and health that took place in Europe and the US during the first half of the 20th century. Critically, their results suggest that income per capita sizeably underestimates the welfare growth experienced during this 50-year period, and that this approach offers only a limited view of welfare development.

By including other factors relevant to human development in their analyses, the researchers found that despite the negative effects of armed conflicts and financial crises, the 20th century marked a period of great improvements in the health and leisure time of citizens in Europe and the US. These improvements had a profound impact on people's lives, with lower mortality rates and better living standards.

Prof de Jong and Gallardo Albarrán's findings support recent arguments made by economics scholars regarding the limits of GDP in measuring citizens' wellbeing and quality of life. Thus, while GDP per capita showed an improvement in European living standards of less than 30% between 1913 and 1950, the composite indicator of welfare used by the researchers suggests that the wellbeing of citizens approximately doubled.

This work presents a valuable opportunity for both methodological and policy-related developments. From a research perspective, it could lead to the implementation of more realistic measures of welfare that consider a broader range of factors affecting citizens' wellbeing. By highlighting the importance of health for citizens' wellbeing, this research could prompt the development of a more comprehensive measure of welfare growth that considers the key role of a country's health system. Future research may also pay greater attention to trade-offs associated with income inequality, as well as identifying more clearly the potential benefits associated with greater leisure time.

The findings could also aid our understanding of the financial and economic crisis of the early 2010s – providing insight into whether economic growth alone is enough to produce welfare improvements. They could also help to shift the primary focus of governments from increasing GDP to developing policies that address a broader range of economic and health-related issues.



# Meet the researchers

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Dr Daniel Gallardo Albarrán is a post-doctoral researcher at the University of Wageningen. He holds a doctoral degree in economics from the University of Groningen. Gallardo Albarrán's most recent work explores aspects of health, the diffusion of medical knowledge, and economic growth in the twentieth century. He has presented his work at a number of international conferences and published his work in several international journals. He has been a visiting researcher at the London School of Economics in London as well as Carlos III in Madrid.

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Dr Herman de Jong is a Professor of Economic History and former Dean of the Faculty of Economics and Business at the University of Groningen. He holds a PhD from the University of Groningen and has been teaching there for 20 years. Professor de Jong has over 70 publications in his name and has presented his work at a number of universities worldwide. His work focuses on economic and social history, as well as long-term economic growth and development. He was visiting professor at the Hitotsubashi University in Tokyo and is President of the European Historical Economics Society.

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